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| 10/776,264 | 02/12/2004 | Koji Nitta | 70456-012 | 4866 |

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MCDERMOTT, WILL & EMERY
600 13th Street, N.W.
Washington, DC 20005-3096

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| EXAMINER |
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VAN, LUAN V

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| ART UNIT | PAPER NUMBER |
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1795

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| MAIL DATE | DELIVERY MODE |
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10/22/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|-------------------------------|------------------------------|--|
| Office Action Summary | Application No. 10/776,264 | Applicant(s) NITTA ET AL. | |
| | Examiner Luan V. Van | Art Unit 1795 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6 and 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Applicant's amendment of September 10, 2007 does not render the application allowable.

Status of Objections and Rejections

All rejections from the previous office action are withdrawn in view of Applicant's amendment.

New grounds of rejection under 35 U.S.C. 103(a) are necessitated by the amendments.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasajima et al. (*Electrochemical Intercalation/Deintercalation of Lithium at an Isotropic Graphite in a LiBr-KBr-CsBr Eutectic Melt*) in view of Uriu et al. (US patent 5647966) and Perry (US patent 3371020).

Regarding claim 6, Kasajima et al. teach an electrodepositing method and a molten salt bath for electrodeposition, containing lithium bromide, potassium bromide, and cesium bromide with the respective mole fraction of 56.1, 18.9 and 25.0 (see Experimental section), wherein a sum of the mole fraction of said lithium bromide and a mole fraction of said cesium bromide is 81.1 ($= 56.1 + 25$), which is within the range of the instant claim, with respect to the entire said molten salt bath, and a mole fraction of said lithium bromide to said cesium bromide is about 2.2 ($= 56.1/25$), which is within the range of the instant claim. With respect to the limitation of using the bath for electroforming, the limitation is an intended use of the instant invention and, thus, is not given patentability weight.

Kasajima et al. differ from the instant claim in that the reference does not explicitly teach a resist to selectively mask the substrate or precipitating tungsten.

Uriu et al. teach a method of manufacturing a metal product, comprising the steps of: forming a resist pattern on a conductive substrate and exposing a portion of said conductive substrate (example 1); immersing said conductive substrate having said resist pattern formed into an electrolytic bath for electroforming; and precipitating a metal at a portion where said conductive substrate is exposed. In addition, Uriu et al.

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teach that although the exemplary conductive patterns are formed of Ag, any material which is available for electroforming such as Ni, Cu, Pd, Au, Cr, or an alloy thereof can be used for the conductive patterns (column 15 lines 16-20).

Perry teaches a process for the electrodeposition of tungsten using a molten bath (Example III).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method of Kasajima et al. by using the resist pattern of Uriu et al., because using a resist pattern would allow selective deposition of a metal on the exposed area of a conductive substrate, thus enabling the formation of a conductive pattern. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have further modified the method of Kasajima et al. by precipitating the tungsten metal of Perry, because such refractory metal would be useful for applications requiring heat and corrosion resistance.

Regarding claim 7, Kasajima et al. teach the molten salt bath is set to 523K (or 250° C).

Response to Arguments

Applicants' arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP §

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706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luan V. Van whose telephone number is 571-272-8521. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LWV
October 17, 2007


NAM NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700